

# CBCS SCHEME



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15EC743

Seventh Semester B.E. Degree Examination, Dec.2018/Jan.2019

## Real Time Systems

Time: 3 hrs.

Max. Marks: 80

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. Define real time system. Classify them based on time constraints. (06 Marks)  
b. Explain the different types of programs in system design. (10 Marks)

OR

- 2 a. Explain briefly sequence control with neat diagram. (06 Marks)  
b. What is DDC? Explain with block diagram. (06 Marks)  
c. Write a short note on hierarchical system. (04 Marks)

### Module-2

- 3 a. What is necessity of using specialized processors in RTS? (04 Marks)  
b. Explain the different forms of parallel computer architectures. (12 Marks)

OR

- 4 a. Explain digital input and output interface. (08 Marks)  
b. Explain the basic interrupt input mechanism with diagram and flowchart. (08 Marks)

### Module-3

- 5 a. List and explain various requirements in programming languages used in real-time applications. (08 Marks)  
b. Explain briefly declaration and initialization of variables and constants. (08 Marks)

OR

- 6 a. What are the data types? Explain each one briefly. (10 Marks)  
b. Write short notes on overview of real time languages. (06 Marks)

### Module-4

- 7 a. Explain with neat diagram structures of RTOS. (08 Marks)  
b. Explain cyclic and preemptive scheduling strategies. (08 Marks)

OR

- 8 a. Draw and explain task state diagram. (08 Marks)  
b. Explain the general structures of Input Output Sub System (IOSS) (08 Marks)

### Module-5

- 9 a. With neat flow-chart describe single program approach with reference to RTS design. (08 Marks)  
b. Explain software design of RTS using software module. (08 Marks)

OR

- 10 a. Explain the outline of abstract modeling approach of ward and Mellor. (10 Marks)  
b. Write a short note on YOURDON-METHODOLOGY. (06 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.